

Appln. No.: 10/092,715
Amendment Dated August 1, 2005
Reply to Office Action of June 1, 2005

TAL-106US

Remarks/Arguments:

The applicants thank the Examiner for the opportunity given to their representative, Frank Tise, to conduct a telephonic interview with the Examiner on July 29, 2005. In that discussion, the Examiner indicated that the proposed amendments and arguments made in an unofficial draft response, FAXed by Dr. Tise to the Examiner on July 27, 2005, might be suitable and should be incorporated into an official Response to Office Action. The present document is that Response.

Claims 5, 7-10, 12-33 and 35-48 were pending in the application at the time of the Office Action. Claims 14, 15 and 24 are canceled herewith.

Rejections Under 35 U.S.C. § 103

Claims 5, 7-10, and 12-36 are rejected under 35 U.S.C. § 103(a) as unpatentable over United States Patent No. 5,498,709 issued to Navia et al. The rejection of claim 34, which was canceled in a previous response, is moot.

The Office Action states that Navia teaches the extraction of sucralose in an aqueous-brine solvent (first solvent) with impurities and extracting it with ethyl acetate (second solvent) to transfer impurities into the second solvent and then back-extract the ethyl acetate extracts with water (third solvent) to transfer the sucralose into the water while retaining the second impurities in the first solvent. The applicants note that the "third solvent" (water) does not meet the limitations of claim 5, which explicitly states that the third solvent must be at least partially immiscible with the first solvent. Since the first solvent is aqueous brine and the third solvent is water, the third solvent is clearly NOT immiscible with the first solvent. The use of a third solvent that is not immiscible with the first is suitable for Navia, because Navia uses the third solvent to perform an extraction on a solution in the SECOND solvent, rather than an extraction on a solution in the FIRST solvent as recited in claim 5. Thus, the use of water as both the first and third solvents in the practice of claim 5 would be an impossibility, since extracting the partially purified composition in the first solvent (water) with a third solvent consisting of water would not be an extraction at all, but rather a mere dilution of the partially purified composition. For this reason, alone and independent of any others, Navia does not suggest at least this limitation of claim 5. The same applies for claims 7-10, and 12-36.

The applicants respectfully acknowledge the Examiner's observation that "one of ordinary skill in the art knows that in such liquid-liquid extractions there is no complete transfer of any given component from one phase to another." Recognizing that this is indeed generally

Appln. No.: 10/092,715
Amendment Dated August 1, 2005
Reply to Office Action of June 1, 2005

TAL-106US

true, the applicants hereby amend claims 5, 7-10, 12, 13, and 23 accordingly. First, these claims are amended to clarify that each of the first and second Impurities comprise one or more halogenated sucrose derivatives, as supported throughout the application as filed, for example at paragraphs [0037] and [0040]. Thus, these are the impurities that must be partitioned into the various solvents according to the claims, not salts or solvents or other impurities (although of course these may partition as well). The claims are further amended to state that the first impurities comprise tetrachlorosucrose and that, in step (a), at least half of the tetrachlorosucrose is transferred to the second solvent while at least half of the sucralose is retained in the first solvent. This amendment is supported by originally filed claim 34, and in paragraph [0053] at lines 5-6. The applicants urge that no disclosure of such a separation of tetrachlorosucrose from sucralose is anywhere recited, or suggested, in Navia. Rather, it is apparent that the cited passages of Navia describe a mere transfer of essentially all halogenated sucrose products into ethyl acetate (the second solvent), and most importantly it is very clear that Navia intends to transfer all of the sucralose to the ethyl acetate and leave essentially none in the first solvent (water). In contrast, the amended claims describe very nearly the opposite situation; they require that at least half of the sucralose be retained in the first solvent (which in some embodiments is water), and thus the amendments clearly distinguish over anything taught or suggested by Navia. No new matter has been added by these amendments. The applicants submit that, particularly in light of the amendments, the Navia reference does not provide all of the claim elements and a *prima facie* case of obviousness has not been presented. Early allowance of these claims and their dependents is thus respectfully requested.

Claims 37-48 are rejected under 35 U.S.C. § 103(a) as unpatentable over Burke (AIC Book and Paper Group Annual, vol 3, 1984, 13-58) in combination with United States Patent No. 5,498,709 issued to Navia et al.

Claim 37 is amended herewith in a manner analogous with the amendment to claim 5. This claim recites a process that is similar that that of claim 5, and further specifies that the second solvent have a lower Hildebrand parameter than the first solvent.

As noted above in regard to the rejection of claims 5, 7-10, and 12-36, Navia does not teach or suggest even the first step, i.e. extracting the crude mixture to transfer first impurities into a second solvent while leaving at least half of the sucralose in the first solvent. Nor of course does he teach or suggest a second washing step with a different solvent. The applicants further note that claim 37 requires the use of three different solvents (a first solvent, a second

Appln. No.: 10/092,715
Amendment Dated August 1, 2005
Reply to Office Action of June 1, 2005

TAL-106US

with lower polarity, and a third with higher polarity), and neither Navia nor Burke suggests anything of this sort.

Regarding claim 43, three solvents are again used, each with a different polarity. This again produces a sucralose solution (in the second solvent) wherein the amounts of both higher polarity and lower polarity impurities have been diminished before any further purification of the sucralose, if any, is performed. Again, Navia never teaches or suggests such a strategy for essentially cleaning the sucralose before final purification, and Burke does nothing to remedy this deficiency. Thus, a *prima facie* case of obviousness has not been presented for any of claims 37-48, and the rejections should be withdrawn.

Other Amendments

Claim 13 is amended to incorporate the limitations of claim 15, which is canceled herewith. Claims 31 and 32 are amended herewith to improve clarity. No new matter has been added.

Conclusion

For all of the foregoing reasons, pending claims 5, 7-10, 12-13, 16-23, 25-33, and 35-48 are in condition for allowance. The applicants request reconsideration of the rejections, and earnestly request favorable action on the pending claims.

Respectfully submitted,



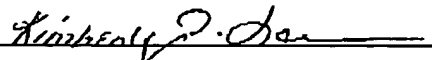
Paul F. Prestia Reg. No. 23,031
Frank P. Tise Reg. No. 50,379
Attorney and Agent for Applicants

Dated: August 1, 2005

☒ P.O. Box 1596.
Wilmington, DE 19899
(302) 778-2500

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office (1-571-273-0654) on the date shown below:
August 1, 2005.



Kimberly N. Lane